DETAILED ACTION

1. Claims 1, 2, 4, 10-24, 55-56, 58, 72-114, 116-215, 236-255 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, 4, 20, 55-56, 72-79, 86, 90-92, 127-128, 135, 160-161, 167, 171, 173-174, 210-214, 228, 236-247 are rejected under 35 U.S.C. 103(a) as over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Bommareddy et al. (US 6772226).

Claims 1 and 55, Edson discloses a radio frequency cable network device *(such as a gateway device to connects to a cable and/or telephone system, fig. 1.13, col. 5, lines 37-58)* that implements at least one gateway service *(such as a firewall, fig. 2.101, col. 9, lines 33-45)*, the device comprising:

- at least one RF cable interface that is attachable to at least one RF cable, the at least one RF cable being at least part of an RF cable data network *(the gateway connects to a cable system or DSL system figs. 1.17 and 1.15, col. 5, lines 45-50),* the at least one RF cable at least providing

downstream communications in the RF cable data network, the RF cable data network providing bi-directional data connectivity between the RF cable network device at a customer premise and a cable modem termination device (col. 5, lines 45-57);

- logic configured to manage the at least one RF cable interface through an IP address (such as the address stored at the firewall, col. 9, lines 42-45);
- a first one customer premise data interface *(such as through a powerline, HPNA, or other type LAN interface, fig. 2.123, 2.121, and 2.125, and col. 10, lines 46-65)* that is electromagnetically connectable to *(such as through a powerline, telephone twisted pair, or other such method such as Ethernet, fig. 1.21 and 1.23 and col. 10, lines 46-65),* a first customer premise equipment (CPE) data device *(such as a television or PC or phone or printer, etc., figs. 1.42, 1.43, 1.33, 1.32)*, the at least one RF cable interface and the first one customer premise data interface capable of providing at least part of a communications facility that can be used in a conveyance of data between the first CPE data device and the at least one RF cable interface (the gateway is responsible for handling communications between devices on the internal network such as televisions and broader network outside the premises, col. 5, lines 26-36);
- forwarding logic configured to forward packets containing IP datagrams destined for the first CPE data device between the RF cable data network and at first customer premise equipment (CPE) data device (such as routing such packets to and from a device, fig. 2.103, and col. 9, lines 52-63).

Edson is silent regarding a radio frequency cable network device that implements at least one gateway service, the device comprising:

- network address translation logic configured to translate an IP address in one of the packets that is destined for the first CPE data device to a second IP address having a subnet different than the first IP address.
- a management IP address assigned by the RF cable data network to the RF cable network device.
- network address translation logic configured to determine security protocol setting and determine a need for elevated security.

- determining whether the first CPE data device comprises an allowed medium access control (MAC) address,
- in response to determining that the first CPE device does not comprise an allowed MAC address, determining whether MAC address configuration is enabled, and
- in response to determining that MAC address configuration is enabled, configuring the MAC address associated with the first CPE device to be set to an allowed MAC address;

Cameron teaches a radio frequency cable network device that implements at least one gateway service, the device comprising:

- network address translation logic configured to translate an IP address in one of the packets that is destined for the first CPE data device (organization) to a second IP address having a subnet (external addresses) different than the first IP address (paragraph [0091]).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson so the network could support even more internet connected devices.

Tsang teaches a management IP address assigned by the RF cable data network (network administrator) to the RF cable network device (cable modem). (paragraph [0004]). *Tsang's Internet Protocol assigned an address to the cable modem to facilitate management.*

At the time of the invention, it would have been obvious to one skilled in the art to utilize an IP address for network management as taught by Tsang to the internal and external addressed of Edson, Cameron in order to communicate over cable via IP (paragraph [0004]).

Schwartz teaches a radio frequency cable network device that implements at least one gateway service, the device comprising:

- network address translation logic (i.e. when NAT is employed) configured to determine security protocol settings (TCP connection settings) and determine a need for elevated security (i.e. upon connection being torn down) (paragraph [0005]).

At the time of the invention, it would have been obvious to one skilled in the art to utilize an NAT logic to elevate security as taught by Schwartz to the system of Edson, Cameron, Tsang to prevent another entity from sending or receiving unknown packets (paragraph [0005]).

Bommereddy teaches the specific features of

- determining whether the first CPE data device comprises an allowed medium access control (MAC) address (operational list) (col. 5, lines 32-45),
- in response to determining that the first CPE device does not comprise an allowed MAC address, determining whether MAC address configuration is enabled (upon failure) (col. 6, lines 8-39), and
- in response to determining that MAC address configuration is enabled, configuring the MAC address associated with the first CPE device (failed CPE) to be set to an allowed MAC address (re-routed to operational device) (cols. 6-7, lines 8-18);

At the time of the invention, it would have been obvious to one skilled in the art to utilize re-routing MAC addresses as taught by Bommereddy to allow for traffic distribution when devices fail to the system of Edson, Cameron, Tsang, Schwartz (col. 6, lines 8-45).

Claims 2, 56, Edson discloses that the RF cable network device and method of claims 1 and 55, wherein the RF cable data network further comprises at least one telco return path that at least provides upstream communications in the RF cable data

network (such as a return path through a digital subscriber line, ADSL, fig. 1.15 and col. 5, lines 45-57).

Claims 4, 75, and 213, Edson discloses the devices and method of Claims 1, 73, and 212 but fails to disclose that the NAT gateway service performs at least one type of NAT selected from the group consisting of: traditional NAT, basic NAT, network address-port translation (NAPT), bi-directional NAT, and twice NAT.

Cameron discloses that the NAT gateway service performs at least one type of NAT selected from the group consisting of: traditional NAT, basic NAT, network address-port translation (NAPT), bi-directional NAT, and twice NAT (such as a basic NAT translation, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson so the network could support even more internet connected devices.

Claim 20, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

Claims 160, and 214, Edson further discloses that at least one gateway service is selected from the group consisting of: firewall and proxy (Edson supports a Firewall, fig. 2.101).

Claim 161, Edson discloses that at least one option card is added to a base unit of the RF cable network device to provide at least support for the at least one integrated gateway service (such as providing an ADSL card, fig. 1.115 to provide cheap internet telephone service, col. 8, lines 22-28).

Claims 167, 226, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

Claim 171, Edson further discloses that the firewall gateway service performs at least one of the firewall types selected from the group consisting of: packet-filtering, circuit-level gateway, and application level gateway (the firewall generally performs packet filtering, col. 9, lines 33-45).

Claim 173, Edson further discloses at least one gateway service performs at least one of the gateway service types selected from the group consisting of: circuit level gateway and application level gateway (Edson also uses application level gateway services, col. 9, lines 33-45).

Claim 174, Edson discloses that at least one integrated gateway service type operates on IP datagrams (such as readdressing packets, col. 9, lines 33-45).

Claims 72 and 210, Edson discloses a radio frequency (RF) cable network device and method (such as a gateway device to connects to a cable and/or telephone system, fig. 1.13, col. 5, lines 37-58) that implements at least one integrated gateway service (such as a firewall, fig. 2.101, col. 9, lines 33-45), the device comprising:

- at least one RF cable interface that is attachable to at least one RF cable, the at least one RF cable being at least part of an RF cable data network (the gateway connects to a cable system or DSL system figs. 1.17 and 1.15, col. 5, lines 45-50), the at least one RF cable at least providing downstream communications in the RF cable data network, the RF cable data network providing bi-directional data connectivity between the RF cable network device at a customer premise and a cable modem termination device (col. 5, lines 45-57);
- at least one customer premise data interface (such as through a powerline, HPNA, or other type LAN interface, fig. 2.123, 2.121, and 2.125, and col. 10, lines 46-65) that is electromagnetically connectable to at least one customer premise data communications medium (such as through a powerline, telephone twisted pair, or other such method such as Ethernet, fig. 1.21 and 1.23 and col. 10, lines 46-65), the at least one customer premise data communications medium further being electromagnetically connectable to at least one first customer premise equipment (CPE) data device (such as a television or PC or phone or printer, etc., figs. 1.42, 1.43, 1.33, 1.32), the at least one RF cable interface and the at least one customer premise data interface capable of providing at least part of a communications facility that can be used in a conveyance of data between the at least one first CPE data device and the at least one RF cable interface (the gateway is responsible for handling communications between devices on the internal network such as televisions and broader network outside the premises, col. 5, lines 26-36);
- logic configured to store information identifying at least one IP address, the at least one IP address being assigned to the RF cable network device (such as the address stored at the firewall, col. 9, lines 42-45);

- logic configured to maintain information that provides a forward direction mapping between first upstream data and second upstream data, the first upstream data being received on the at least one customer premise data interface and being received from the at least one first CPE data device, the second upstream data being transmitted into the RF cable data network and being transmitted by the RF cable network device (such as readdressing an out-bound packet from a CPE at the firewall of the gateway, col. 9, lines 42-45);
- logic configured to maintain information that provides a reverse direction mapping between first downstream data and second downstream data, the first downstream data being received on the at least one RF cable interface and being received from the RF cable data network, the second downstream data being transmitted on the at least one customer premise data interface and being transmitted by the RF cable network device (the various interface cards provides two way communication on the internal network, col. 10, lines 46-65, and the router, fig. 2.103 routes incoming messages to the appropriate devices over the appropriate medium, col. 9, lines 52-63);
- logic configured to receive at least one first medium access control (MAC) frame that is at least part of the first upstream data (col. 11, lines 41-55);
- logic configured to form at least one first IP datagram at least based upon the at least one first MAC frame, at least based upon the at least one IP address, and at least based upon the forward direction mapping, the at least one first IP datagram comprising a source IP address field, the at least one IP address being placed into the source IP address field of the at least one first IP datagram;
- logic configured to transmit the at least one first IP datagram that is at least part of the second upstream data (col. 11, lines 41-55);
- logic configured to receive at least one second IP datagram that is at least part of the first downstream data, the at least one second IP datagram comprising a destination IP address field that contains the at least one IP address (col. 11, lines 41-55);
- logic configured to form at least one second medium access control (MAC) frame at least based upon the at least one second IP datagram, at least based upon the at least one IP address, and at least based upon the reverse direction mapping (col. 11, lines 41-55); and

- logic configured to transmit the at least one second MAC frame that is at least part of the second downstream data (it is common to use media access control [MAC], when dealing with networking. The MAC controls how devices communicate with the physical medium and normally direct digital data to the various devices (see fig. 3 and cols. 11 and 12, lines 41-67 and 1-14).

Edson is silent regarding a management IP address; and

- logic configured to translate an IP address in one of the packets that is destined fro the at least one CPE data device to a NAT process IP address such that the NAT process IP address has a subnet different than the management IP address.
- network address translation logic configured to determine security protocol setting and determine a need for elevated security.
- determining whether the first CPE data device comprises an allowed medium access control (MAC) address,
- in response to determining that the first CPE device does not comprise an allowed MAC address, determining whether MAC address configuration is enabled, and
- in response to determining that MAC address configuration is enabled, configuring the MAC address associated with the first CPE device to be set to an allowed MAC address.

Cameron teaches a radio frequency (RF) cable network device comprising:

- logic configured to translate an IP address in one of the packets that is destined for the at least one CPE data device (organization) to a NAT process IP address such that the NAT process IP address has a subnet different (external addresses) than another IP address (paragraph [0091]).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson so the network could support even more internet connected devices.

Tsang teaches a management IP address (paragraph [0004]). *Tsang's Internet Protocol assigned an address to the cable modem to facilitate management.*

At the time of the invention, it would have been obvious to one skilled in the art to utilize an IP address for network management as taught by Tsang to the internal and external addressed of Edson, Cameron in order to communicate over cable via IP (paragraph [0004]).

Schwartz teaches a radio frequency cable network device that implements at least one gateway service, the device comprising:

- network address translation logic (i.e. when NAT is employed) configured to determine security protocol settings (TCP connection settings) and determine a need for elevated security (i.e. upon connection being torn down) (paragraph [0005]).

At the time of the invention, it would have been obvious to one skilled in the art to utilize an NAT logic to elevate security as taught by Schwartz to the system of Edson, Cameron, Tsang to prevent another entity from sending or receiving unknown packets (paragraph [0005]).

Bommereddy teaches the specific features of

- determining whether the first CPE data device comprises an allowed medium access control (MAC) address (operational list) (col. 5, lines 32-45),
- in response to determining that the first CPE device does not comprise an allowed MAC address, determining whether MAC address configuration is enabled (upon failure) (col. 6, lines 8-39), and
- in response to determining that MAC address configuration is enabled, configuring the MAC address associated with the first CPE device (failed CPE) to be set to an allowed MAC address (re-routed to operational device) (cols. 6-7, lines 8-18);

At the time of the invention, it would have been obvious to one skilled in the art to utilize re-routing MAC addresses as taught by Bommereddy to allow for traffic

distribution when devices fail to the system of Edson, Cameron, Tsang, Schwartz (col. 6, lines 8-45).

Claims 73, 211, Edson discloses that the RF cable network device and method of claims 1 and 55, wherein the RF cable data network further comprises at least one telco return path that at least provides upstream communications in the RF cable data network (such as a return path through a digital subscriber line, ADSL, fig. 1.15 and col. 5, lines 45-57).

Claims 74 and 212, Edson discloses the RF cable network device and method of claims 72 and 210, wherein the at least one first MAC frame comprises a third IP datagram, wherein the at least one second MAC frame comprises a fourth IP datagram *(Edson already discloses that IP datagrams are included in MAC frames, fig. 3, cols. 11 and 12, lines 40-67 and 1-14),* but fails to disclose wherein the RF cable network device is configured to perform network address translation (NAT), NAT being a gateway service that translates information in IP datagrams.

Cameron discloses wherein the RF cable network device is configured to perform network address translation (NAT), NAT being a gateway service that translates information in IP datagrams (paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson so the network could support even more internet connected devices.

Claim 76, Edson discloses that the device be configured to perform at least one application gateway service (such as web services, col. 9, lines 15-32).

Claim 77, Edson discloses that the application layer gateway service provides gateway services to at least one version of at least one TCP/IP (transmission control protocol/internet protocol) suite application protocol that is selected from the group of consisting of: telnet, rlogin, file transfer protocol (FTP), trivial file transfer protocol (TFTP), network file system (NFS), electronic mail, simple mail transfer protocol (SMTP), post office protocol (POP), internet message access protocol (IMAP), multipurpose internet mail extensions (MIME), hyper-text transfer protocol (HTTP), real-time transport protocol (RTP), and simple network management protocol (SNMP) (such as by providing web services which rely on HTTP, col.9, lines 15-32).

Claim 78, Edson discloses the RF cable network device of claim 74, wherein the at least one customer premise communications medium is further electromagnetically connectable to at least one second customer premise equipment (CPE) data device that has IP connectivity through the RF cable network device to the RF cable data network without utilizing NAT (such as the PC, fig. 1.43, through medium 1.23).

Claim 79, Edson discloses the RF cable network device of claim 74, wherein the at least one customer premise communications medium is further electromagnetically

connectable to at least one second customer premise equipment (CPE) data device, the RF cable network device further comprising logic configured to block IP connectivity between the at least one second customer premise equipment (CPE) data device and the RF cable data network (the gateway can restrict or block access for certain on-site devices, col. 9, lines 45-51).

Claims 86 and 135, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

Claim 90, Edson further discloses that at least one option card is added to a base unit of the set-top box to provide at least support to the performance of NAT (such as cards supporting various connections, col. 10, lines 14-35).

Claim 91, Edson discloses that the at least one customer premise data communications medium is at least one wired customer premise data communications medium (such as through a powerline, telephone twisted pair, or other such method such as Ethernet, fig. 1.21 and 1.23 and col. 10, lines 46-65).

Claim 92 Edson further discloses that at least one option card is added to a base unit of the RF cable network device to provide at least support for the at least one wired

customer premise data communications medium (such as an Ethernet card, fig. 3.125, and col. 10, lines 46-65).

Claim 127, Edson further discloses that at least one customer premise data communications medium is at least one wireless customer premise data communications medium (col. 10, lines 46-65).

Claim 128, Edson further discloses that at least one option card is added to a base unit of the RF cable network device to provide at least support for the at least one wireless customer premise data communications medium (fig. 1.125 and col. 10, lines 46-65).

Claims 236, 242, Edson discloses the RF cable network device wherein the first address (re-addresses) is assigned by a cable modem termination system (CMTS) which conforms to a DOCSIS (Data- Over-Cable Service Interface Specification) standard (col. 9, lines 42-45).

Claims 237, 243, Cameron discloses the RF cable network device wherein the second address is a global public IP address (external addresses are global) (paragraph [0091]).

Claims 238, 244, Cameron discloses the RF cable network device wherein the second address is a private IP address (internal addresses are private) (paragraph [0091]).

Claims 239, 245, Edson teaches strong the IP address at the firewall (col. 9, lines 42-45).

Cameron teaches The RF cable network device of claim 1, further comprising: logic configured for routing the second IP address in association with the NAT logic (paragraph [0091]).

Claims 240, 246, Edson discloses the RF cable network device further comprising:

- a second customer premise data interface that is electromagnetically connectable to a second CPE data device (col. 6, lines 27-40),
- wherein the forwarding logic is further configured to forward packets containing IP datagrams destined for the second CPE data device between the RF cable network and the second CPE data device (routing packets to devices) (fig. 2; col. 9, lines 52-63).

Cameron discloses the RF cable network device further comprising:

- wherein the NAT logic is further configured to translate an IP address in one of the packets destined for the second CPE data device to a third IP address having a subnet different than the first IP address (paragraph [0091]). *Each organization may have a plurality of data devices, each organization having a different subnet.*

Claims 241, 247, Edson teaches the RF cable network device further comprising:

- a second customer premise data interface that is electromagnetically connectable to a second CPE data device(col. 6, lines 27-40),
- wherein the forwarding logic is further configured to forward packets containing IP datagrams destined for the second CPE data device between the RF cable network and the second CPE data device (routing packets to devices) (fig. 2; col. 9, lines 52-63).

Cameron teaches the RF cable network device further comprising:

- wherein the NAT logic is further configured not to translate an IP address in one of the packets destined for the second CPE data device (internal addressing) (paragraph [0092]).

4. Claims 10-12, 149-150, 156 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Na (US 6,993,785).

Claim 10, Edson discloses the device of Claim 1, but fails to disclose dynamically assigning at least one customer network IP address to the at least one first CPE device.

Na discloses dynamically assigning (such as by using DHCP) at least one customer network IP address to the at least one first CPE device (col. 3, lines 22-42).

At the time of the invention, it would have been obvious to one skilled in the art to combine dynamic assigning, as done in Na, with the device of Edson so the network can be as flexible as possible.

Claim 11, Edson fails to disclose dynamically assigning at least one customer network IP address comprises Dynamic Host Configuration Protocol (DHCP) server logic.

Na further discloses dynamically assigning at least one customer network IP address comprises Dynamic Host Configuration Protocol (DHCP) server logic (col. 3, lines 22-42).

Claim 12, Edson further discloses that at least one customer network IP address is from a different IP address realm than the at least one IP address for RF cable network access (such as an IP address granted through a DSL or other network, figs. 1.15 and 1.19, col. 5, lines 45-57).

Claim 149, Edson fails to disclose wherein the RF cable network device further comprises logic configured to perform as a Dynamic Host Configuration Protocol (DHCP) server that assigns at least one customer network IP address to the at least one first CPE data device connected to the at least one customer premise data communications medium.

Na discloses wherein the RF cable network device further comprises logic configured to perform as a Dynamic Host Configuration Protocol (DHCP) server that assigns at least one customer network IP address to the at least one first CPE data device connected to the at least one customer premise data communications medium (col. 3, lines 22-42).

Claim 150, Edson further discloses that at least one customer network IP address is from a different IP address realm than the at least one IP address for RF cable network access (such as an IP address granted through a DSL or other network, figs. 1.15 and 1.19, col. 5, lines 45-57).

Claim 156, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

5. Claims 13-19, 21-24, 58, 80-85, 87-89, 130-134, 136-138, 165, 169 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Nazarathy (US 6,490,727).

Claims 13, 16, 21, 58, Edson and Nazarathy jointly fail to disclose that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard.

Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an Ethernet attached cable modem that conforms to at

least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

At the time of the invention it would have been obvious to one skilled in the art to combine the DOCSIS compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the well known standard.

Claim 14, Edson discloses that the RF cable network devices and also discloses:

- at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and
- logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23).

Edson does not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network.

Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one

RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson so that the resulting device would also provide common set-top box functionality for the end user.

Claim 15, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

Claims 17, 22, 165, 169, Edson does not disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address.

Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least

one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to device on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson and Nazarathy so the network could support even more internet connected devices.

Claims 18, 23, Edson fails to disclose that device conforms to at least one version of a DAVIC cable modem standard.

Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

Claims 19, 24, Edson further discloses that at least one option card is added to a base unit of the set-top box to provide at least support to the at least one gateway devices (such as cards supporting various connections, col. 10, lines 14-35).

Claims 80 and 130, Edson and Cameron jointly disclose that the RF cable network devices of claims 74 and 127 and Edson further discloses that it further comprises:

- at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45);
- logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and
- logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium *(such as through the network connector, fig. 1.322, and col. 10, lines 36-45)*, the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23).

Edson and Cameron do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network.

Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson and Cameron so that the resulting device would also provide common set-top box functionality for the end user.

Claims 81 and 131, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

Claims 82, 87, 132, and 136, Edson, Cameron, and Nazarathy jointly disclose the devices of Claims 80, 130, and 135, and Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

Claims 83, 88, 133, and 137, Edson fails to disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address.

Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least

one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to devices on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson and Nazarathy so the network could support even more internet connected devices.

Claims 84, 89, 134, and 138, Edson fails to disclose that device conforms to at least one version of a DAVIC cable modem standard.

Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson and Cameron so that the resulting device would be compatible with the well known standard.

Claim 85, Edson further discloses that at least one option card is added to a base unit of the set-top box to provide at least support to the performance of NAT (such as cards supporting various connections, col. 10, lines 14-35).

6. Claims 93-94, 100, 104-106, 112, 116-117, 123 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US

2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and in further view of Hooper (US 5,414,455).

Claim 93, Edson and Cameron jointly disclose the device of Claim 91 but fail to disclose that the at least one wired customer premise data communications medium is at least one communications medium that at least utilizes time-division multiplexing.

Hooper discloses that the at least one wired customer premise data communications medium is at least one communications medium that at least utilizes time-division multiplexing (col. 5, lines 44-55).

At the time of the invention it would have been obvious to one skilled in the art to combine the time-division multiplexing of Hooper, an analogous art, to the device of Edson and Cameron so that the resulting device could use a well-known technique to increase the data traffic of the network.

Claim 94, Edson discloses that the at least one wired customer premise data communications medium is at least one selection from the group consisting of: RS-232, RS-449, V.35, universal serial bus (USB), Ethernet, and token ring (such as Ethernet, col. 10, lines 46-65).

Claims 100, 112, and 123, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

Claim 104, Edson and Cameron jointly disclose the device of Claim 91 but fail to disclose that the at least one wired customer premise data communications medium is at least one communications medium that at least utilizes frequency-division multiplexing.

Hooper discloses that the at least one wired customer premise data communications medium is at least one communications medium that at least utilizes time-division multiplexing (frequency division is well-known in the cable art and is commonly used along with time division, see, for instance, col. 5, lines 25-35).

At the time of the invention it would have been obvious to one skilled in the art to combine the frequency-division multiplexing of Hooper, an analogous art, to the device of Edson and Cameron so that the resulting device could use a well-known technique to increase the data traffic of the network.

Claim 105, Edson discloses that the at least one wired customer premise data communications medium is telephone wiring at the customer premise (fig. 1.21, and col. 7, lines 16-26), and wherein IP datagrams are frequency-division multiplexed with a signal for carrying an analog POTS voice-frequency band signal (col. 10, lines 36-45).

Claim 106, Edson discloses that the at least one wired customer premise data communications medium conforms to at least one version of a Home Phoneline Networking Alliance (HPNA) standard (fig. 1.11 and col. 10, lines 46-50).

Claim 116, Edson fails to disclose that the IP datagrams are frequency division multiplexed and Edson further discloses that at least one wired customer premise data communications medium is electrical power wiring at the customer premise with a signal for carrying electrical power to appliances at the customer premise.

Cameron already discloses that the IP datagrams are frequency division multiplexed and Edson further discloses that at least one wired customer premise data communications medium is electrical power wiring at the customer premise with a signal for carrying electrical power to appliances at the customer premise (fig. 1.23, col. 7, lines 16-26).

Claim 117, Edson further discloses that the at least one wired customer premise data communications medium conforms to at least one version of at east one protocol selected from the group consisting of: X. 10, CEBus, and PowerPacket (such as X-10, col. 8, lines 46-51).

7. Claims 95-99, 101-103, 107-111, 113-115, 118-122, 124-126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and in further view of Hooper (US 5,414,455) and in further view of Nazarathy (US 6,490,727).

Claims 95, 107, and 118, Edson, Cameron, and Hooper jointly disclose that the RF cable network devices of claims 93, 105, and 118 and Edson further discloses that it further comprises:

- at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45);
- logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23).

Edson, Cameron, and Hooper do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network.

Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of

Edson, Cameron, and Hooper so that the resulting device would also provide common set-top box functionality for the end user.

Claims 96, 108, and 119, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

Claims 97, 101, 109, 113, 120, and 124, Edson, Cameron, Hooper, and Nazarathy jointly disclose the devices of Claims 95, 100, 107, and 112, 118, and 123, and Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an Ethernet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

Claims 98, 102, 110, 114, 121, and 125, Edson fails to disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address.

Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic

configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to devices on the LAN while maintaining an IP address for the gateway, paragraph 91).

Claims 99, 103, 111, 115, 122, and 126, Edson fails to disclose that device conforms to at least one version of a DAVIC cable modem standard.

Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson, Cameron, and Hooper so that the resulting device would be compatible with the well known standard.

8. Claim 129 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and in further view of Bowser (US 6,870,570).

Claim 129, Edson and Cameron jointly disclose the device of Claim 128 but fail to disclose wherein the at leas one wireless customer premise data communications medium conforms to at least one version of at least one protocol selected from the group consisting of: Bluetooth, IEEE 802.11 a, IEEE 802.1 lb, and HomeRF.

Bowser discloses wherein the at leas one wireless customer premise data communications medium conforms to at least one version of at least one protocol selected from the group consisting of: Bluetooth, IEEE 802.11 a, IEEE 802.1 lb, and HomeRF (such as Bluetooth, col. 4, lines 3-7).

At the time of the invention it would have been obvious to one skilled in the art to combine the Bluetooth networking of Bowser, an analogous art, to the device of Edson and Cameron to allow wireless networking with an industry accepted standard.

9. Claim 139 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and in further view of Okano (US 2002/0062485).

Claim 139, Edson and Cameron jointly disclose the device of Claim 74 but fail to disclose wherein the RF cable network device further comprises logic configured to implement a Dynamic Host Configuration Protocol (DHCP) client that dynamically obtains the assignment of the least one IP address.

Okano discloses wherein the RF cable network device further comprises logic configured to implement a Dynamic Host Configuration Protocol (DHCP) client that dynamically obtains the assignment of the least one IP address (paragraph 2).

At the time of the invention it would have been obvious to one skilled in the art to combine the use of DHCP as done in Okano, an analogous art, to the device of Edson and Cameron to take advantage of a widely known standard for dynamically allocating IP addresses on a network.

Claim 145, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

10. Claims 140-144, 146-148 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and in further view of Okano (US 2002/0062485) and in further view of view of Nazarathy (US 6,490,727).

Claim 140, Edson, Cameron, and Okano jointly disclose that the RF cable network devices of claims 139 and Edson further discloses that it further comprises:

- at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45);

- logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and
- logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23).

Edson, Cameron, and Okano do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network.

Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson, Cameron, and Okano so that the resulting device would also provide common set-top box functionality for the end user.

Claim 141, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

Claims 142 and 146, Edson, Cameron, and Nazarathy jointly disclose the devices of Claims 140 and 145, and Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

Claims 143 and 147, Edson fails to disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address.

Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set

of IP addresses to devices on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson, Okano, and Nazarathy so the network could support even more internet connected devices.

Claims 144 and 148, Edson fails to disclose that device conforms to at least one version of a DAVIC cable modem standard.

Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson, Cameron, and Okano so that the resulting device would be compatible with the well known standard.

11. Claims 151-155, 157-159, 181, 185 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and in further view of Na (US 6,993,785) and in further view of Nazarathy (US 6,490,727).

Claim 151, Edson, Cameron, and Na jointly disclose that the RF cable network device of claim 149 and Edson further discloses that it further comprises:

- at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45);
- logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23).

Edson, Cameron, and Na do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network.

Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of

Edson, Cameron, and Na so that the resulting device would also provide common set-top box functionality for the end user.

Claim 152, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

Claims 153 and 157, Edson, Cameron, and Nazarathy jointly disclose the devices of Claims 151 and 156, and Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

Claims 154 and 158, Edson fails to disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address.

Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP

address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to devices on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson and Nazarathy so the network could support even more internet connected devices.

Claims 155 and 159, Edson fails to disclose that device conforms to at least one version of a DAVIC cable modem standard.

Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson, Cameron, and Na so that the resulting device would be compatible with the a well known standard.

Claims 181, 185, Edson fails to disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also

considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address.

Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to device on the LAN while maintaining an IP address for the gateway, paragraph 91).

12. Claims 162-164, 168, 170 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Nazarathy (US 6,490,727).

Claims 164, 168, Edson fails to disclose that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard.

Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an Ethernet attached cable modem that conforms to at

least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

At the time of the invention it would have been obvious to one skilled in the art to combine the DOCSIS compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the well known standard.

Claim 162, Edson discloses that the RF cable network devices and also discloses:

- at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and
- logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23).

Edson does not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network.

Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V)

program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson so that the resulting device would also provide common set-top box functionality for the end user.

Claim 163, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

Claim 170, Edson fails to disclose that device conforms to at least one version of a DAVIC cable modem standard.

Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the well known standard.

13. Claims 175-176 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view

of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Tseng (US 5,852,714).

Claim 175, Edson discloses the device of Claim 173 but fails to disclose that at least one integrated service type converts network layer protocols.

Tseng discloses that at least one integrated service type converts network layer protocols (such as from TCP/IP to IPX, col. 1, lines 45-52).

At the time of the invention, it would have been obvious to one skilled in the art to combine the network protocol conversion, as done in Tseng, an analogous art, to the device of Edson so that the two networks did not have to use the same protocol.

Claim 176, Edson fails to disclose wherein the at least one integrated gateway service type converts network protocols between the network layer protocols of IPX and IP.

Tseng further discloses wherein the at least one integrated gateway service type converts network protocols between the network layer protocols of IPX (Internet Packet eXchange) and IP (Internet Protocol).

At the time of the invention, it would have been obvious to one skilled in the art to combine the network protocol conversion, as done in Tseng, an analogous art, to the device of Edson so that the two networks did not have to use the same protocol.

14. Claims 177, 183 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Tseng (US 5,852,714) and further in view Na (US 6,993,785).

Claim 177, Na further discloses wherein the RF cable network device further comprises logic configured to perform as a Dynamic Host Configuration Protocol (DHCP) server that assigns at least one customer network IP address to the at least one first CPE data device connected to the at least one customer premise data communications medium (col. 3, lines 22-42).

At the time of the invention, it would have been obvious to one skilled in the art to combine dynamic assigning, as done in Na, with the device of Edson so the network can be as flexible as possible.

Claim 183, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

15. Claims 178-180, 182, 184, 186 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz

(US 2009/0077647), and further in view of Na (US 6,993,785) and in further view of Nazarathy (US 6,490,727).

Claims 178, Edson and Na jointly disclose that the RF cable network device of claim 177 and Edson further discloses:

- at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and
- logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23).

Edson and Na do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network.

Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson and Na so that the resulting device would also provide common set-top box functionality for the end user.

Claims 179, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

Claims 180 and 184, Edson fails to disclose that the RF cable network device appears on the RF cable data network to be the same as an Ethernet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard.

Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an Ethernet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

At the time of the invention it would have been obvious to one skilled in the art to combine the DOCSIS compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the well known standard.

Claims 182 and 186, Edson fails to disclose that device conforms to at least one version of a DAVIC cable modem standard.

Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

16. Claims 187-188, 194, 198-199, 215 are rejected under 35 U.S.C. 103(a) as being unpatentable Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Sawyer (US 6,487,592).

Claims 187 and 215, Edson discloses the device and methods of Claims 72 and 210 but fails to disclose that the RF cable network device is configured to perform the at least one integrated gateway service, the at least one integrated gateway service being selected from the group consisting of tunneling and virtual private networking (VPN).

Sawyer discloses that the RF cable network device is configured to perform the at least one integrated gateway service, the at least one integrated gateway service being selected from the group consisting of tunneling and virtual private networking (VPN) (col. 3, lines 55-62).

At the time of the invention, it would have been obvious to one skilled in the art to combine the VPN, as done in Sawyer, an analogous art so that the user can access secure networks across the Internet.

Claim 188, Edson discloses that at least one option card is added to a base unit of the RF cable network device to provide at least support for the at least one integrated gateway service (such as providing an ADSL card, fig. 1.115 to provide cheap internet telephone service, col. 8, lines 22-28).

Claim 198, Edson fails to disclose that the at least one integrated service communicates encapsulated information in IP datagrams over the RF cable network.

Sawyer discloses that the at least one integrated service communicates encapsulated information in IP datagrams over the RF cable network (Such as using IPsec for secure communications, cols 2 and 3, lines 64-67 and 1-7).

At the time of the invention, it would have been obvious to one skilled in the art to combine the IPsec, as done in Sawyer, an analogous art so that the user can access secure networks across the Internet.

Claim 199, Edson fails to disclose that the at least one integrated service at least one service utilizing at least one version of at least one protocol selected from the group consisting of: generic routing encapsulation, Ascend tunnel management protocol,

point-to-point tunneling protocol, layer two forwarding protocol, layer two tunneling protocol, IP Security, and multi-protocol label switching.

Sawyer further discloses that the at least one integrated service at least one service utilizing at least one version of at least one protocol selected from the group consisting of: generic routing encapsulation (GRE), Ascend tunnel management protocol (ATMP), point-to-point tunneling protocol (PPTP), layer two forwarding (L2F) protocol, layer two tunneling protocol (L2TP), IP Security (IPSec), and multi-protocol label switching (MPES) (Such as using IPsec for secure communications, cols 2 and 3, lines 64-67 and 1-7).

Claim 194, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

17. Claims 189-191, 193-195, and 197 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Sawyer (US 6,487,592) and in further view of Nazarathy (US 6,490,727).

Claim 189, Edson and Sawyer jointly disclose that the RF cable network device of claim 187 and Edson further discloses:

- at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and
- logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23).

Edson and Sawyer do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network.

Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson and Sawyer so that the resulting device would also provide common set-top box functionality for the end user.

Claim 190, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

Claims 191 and 195, Edson fails to disclose that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard.

Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

At the time of the invention it would have been obvious to one skilled in the art to combine the DOCSIS compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

Claims 193 and 197, Edson fails to disclose that device conforms to at least one version of a DAVIC cable modem standard.

Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

18. Claims 192 and 196 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Sawyer (US 6,487,592) and in further view of Nazarathy (US 6,490,727).

Claims 192 and 196, Edson, Na and Nazarathy jointly disclose the devices of Claims 191 and 194, but they fail to disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address.

Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least

one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to device on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson, Sawyer, and Nazarathy so the network could support even more internet connected devices.

19. Claims 200, 206 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Sawyer (US 6,487,592) and in further view of Na (US 6,993,785).

Claim 200, Edson and Sawyer disclose the device of Claim 187 but fail to disclose wherein the RF cable network device further comprises logic configured to perform as a Dynamic Host Configuration Protocol (DHCP) server that assigns at least one customer network IP address to the at least one first CPE data device connected to the at least one customer premise data communications medium.

Na further discloses wherein the RF cable network device further comprises logic configured to perform as a Dynamic Host Configuration Protocol (DHCP) server that assigns at least one customer network IP address to the at least one first CPE data device connected to the at least one customer premise data communications medium (col. 3, lines 22-42).

At the time of the invention, it would have been obvious to one skilled in the art to combine dynamic assigning, as done in Na, with the device of Edson so the network can be as flexible as possible.

Claim 206, Edson discloses that the device is a cable modem (Edson's device allows communications on a CATV system and is, therefore, a cable modem, fig. 1.117).

20. Claims 201-203, 205, 207, 209 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Sawyer (US 6,487,592) and in further view of Na (US 6,526,581) and in further view of Nazarathy (US 6,490,727).

Claim 201, Edson, Sawyer, and Na jointly disclose that the RF cable network device of claim 200 and Edson further discloses:

- at least one audio/video (A/V) customer premise equipment (CPE) interface that is electromagnetically connectable to at least one customer premise audio/video (A/V) communications medium (col. 10, lines 41-45); logic configured to receive the selected at least one A/V program from the RF cable A/V network (col. 6, lines 27-39); and
- logic configured to provide the received at least one A/V program to at least one audio/video (A/V) customer premise equipment (CPE) device that is electromagnetically connectable to the at least one customer premise A/V communications medium (such as through the network connector, fig. 1.322, and col. 10, lines 36-45), the at least one A/V program communicated through the at least one A/V

CPE interface (fig. 1.322) and over the at least one customer premise A/V communications medium (such as connection 1.23).

Edson, Sawyer, and Na do not disclose wherein the RF cable network device is a set-top box (STB) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network.

Nazarathy does disclose wherein the RF cable network device is a set-top box (STB) (col. 9, lines 25-34) with logic configured to select at least one audio/video (A/V) program that is communicated to the at least one RF cable interface over at least one RF cable audio/visual (A/V) network (such as by selecting Pay-Per-View content for viewing, col. 18, lines 24-33).

At the time of the invention it would have been obvious to one skilled in the art to combine the set-top box capabilities of Nazarathy, an analogous art, to the device of Edson, Sawyer, and Na so that the resulting device would also provide common set-top box functionality for the end user.

Claim 202, Edson discloses that the at least one A/V CPE device is selected from the group consisting of: a television, a video recorder, a stereo, and an audio recorder (such as a television, fig. 1.42).

Claims 203 and 207, Edson fails to disclose that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable

modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard.

Nazarathy discloses that the RF cable network device appears on the RF cable data network to be the same as an ethemet attached cable modem that conforms to at least one version of a DOCSIS (Data-Over-Cable Service Interface Specification) standard (col. 9, lines 25-34).

At the time of the invention it would have been obvious to one skilled in the art to combine the DOCSIS compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

Claims 205 and 209, Edson fails to disclose that device conforms to at least one version of a DAVIC cable modem standard.

Nazarathy further discloses that device conforms to at least one version of a DAVIC cable modem standard (col. 4, lines 39-48).

At the time of the invention it would have been obvious to one skilled in the art to combine the DAVIC compatibility of Nazarathy, an analogous art, to the device of Edson so that the resulting device would be compatible with the a well known standard.

21. Claims 204 and 208 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US

2009/0077647), and further in view of Sawyer (US 6,487,592) and in further view of Na (US 6,526,581) and in further view of Nazarathy (US 6,490,727).

Claims 204 and 208, Edson, Sawyer, Na and Nazarathy jointly disclose the devices of Claims 203 and 207, but they fail to disclose that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address.

Cameron discloses that the at least one IP address is at least one DOCSIS customer premise equipment (CPE) IP address, the set-top box further comprising logic configured to store information identifying at least one DOCSIS cable modem (CM) IP address, the at least one DOCSIS CM IP address also considered to be assigned to the set-top box, the at least one DOCSIS CPE IP address being different from the at least one DOCSIS CM IP address (Network Address Translation allows a LAN to assign a set of IP addresses to device on the LAN while maintaining an IP address for the gateway, paragraph 91).

At the time of the invention, it would have been obvious to one skilled in the art to combine basic NAT, as done in Cameron, with the device of Edson, Sawyer, Na, and Nazarathy so the network could support even more internet connected devices.

22. Claims 248-255 are rejected under 35 U.S.C. 103(a) as over Edson (US 6,526,581) in view of Cameron et al. (US 2005/0028206) and further in view of Tsang et al. (US 2006/0212919), and further in view of Schwartz (US 2009/0077647), and further in view of Hirose et al. (US 2001/0049825).

Claims 248-255, note the discussions of claims 1, 55, 72, and 210 above.

Edson teaches an RF cable network (fig. 1.13, col. 5, lines 37-58).

Cameron teaches network address translation logic configured to translate an IP address in one of the packets that is destined for the first CPE data device (paragraph [0091]).

Edson, Cameron, Tsang are silent regarding

- memory for storing a MAC address associated with the at least one first CPE data device;
- such that the one of the packets appears to be sent from the stored MAC address associated with the first CPE address when the one of the packets is communicated across the an interface.
- network address translation logic configured to determine security protocol setting and determine a need for elevated security.

Hirose teaches the device comprising:

- memory for storing a MAC address associated with the at least one first CPE data device (MA1, MA2) (paragraph [0033]);
- such that the one of the packets appears to be sent from the stored MAC address associated with the first CPE address (if matching is successful) when the one of the packets is communicated across the an interface (paragraph [0033]-[0034]).

At the time of the invention, it would have been obvious to one skilled in the art to store the MAC address in a device as taught by Hirose to the system of Edson,

Cameron, Tsang to allow the network to confirm targeting to devices on the network (paragraph [0033]).

Schwartz teaches a radio frequency cable network device that implements at least one gateway service, the device comprising:

- network address translation logic (i.e. when NAT is employed) configured to determine security protocol settings (TCP connection settings) and determine a need for elevated security (i.e. upon connection being torn down) (paragraph [0005]).

At the time of the invention, it would have been obvious to one skilled in the art to utilize an NAT logic to elevate security as taught by Schwartz to the system of Edson, Cameron, Tsang to prevent another entity from sending or receiving unknown packets (paragraph [0005]).

Response to Arguments

23. Applicant's arguments with respect to claims 1, 2, 4, 10-24, 55-56, 58, 72-114, 116-215, 236-255 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

24. Claims 1, 2, 4, 10-24, 55-56, 58, 72-114, 116-215, 236-255 are rejected.

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MUSHFIKH ALAM whose telephone number is (571)270-1710. The examiner can normally be reached on Mon-Fri: 8:30-18:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hirl Joseph can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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